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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,404	01/26/2005	Takeshi Imamura	03500.017461	5542
5514 7590 05/14/2007 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EXAMINER LEV KOVICH, NATALIA A	
			ART UNIT 1743	PAPER NUMBER
			MAIL DATE 05/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/522,404	Applicant(s) IMAMURA ET AL.	
	Examiner Natalia Levkovich	Art Unit 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-4, 6, 9, 10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 9, 10 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/26/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/22/2007 has been entered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to properly show connection / disconnection recesses 106, 206 as described in the specification. Figure 1 shows element 108 which projects from the upper surface of the unit in the same manner as projection 109 which is unclear and confusing. The same consideration applies to Figure 2 showing projection 209 and 'recess' 208. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if

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only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The specification is objected to because it contains terms which are not clear, concise and exact, as required by 35 U.S.C. 112, first paragraph. In particular, it is stated in the specification the liquid leading out section of a transfer apparatus connects with the liquid introducing section of another transfer apparatus to form a liquid flow path continuing from the liquid introducing section of the former liquid transfer apparatus to the liquid leading out section of the latter liquid transfer apparatus', which can be interpreted that it is the 'liquid leading out section' which comprises a 'connection / disconnection section' recited in claim 12.

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On the other hand, the specification recites 'connection/disconnection recess 108 and a connection/disconnection projection 109 for reversibly connecting liquid processing devices' provided on the base member (common for the liquid introducing, liquid containing and liquid leading out sections). It is unclear what elements constitute the 'connection/disconnection section'.

The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-4, 6, 9-10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being unclear for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, as amended, now recites 'each liquid leading out section of each unit'.

It is unclear whether or not the intended structure includes multiple 'liquid leading out sections' per unit.

Claim 2 recites 'at least either said liquid introducing section or said liquid leading out section has a sealing material for maintaining a liquid-tightness when it is connected to the liquid leading out section or the liquid introducing section, whichever appropriate, of another liquid transfer apparatus.

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The underlined limitations are unclear in the given context. Is the liquid transfer apparatus connected to another liquid transfer apparatus or not? Since the apparatus is comprised of plurality of units, 'said liquid leading out' / 'liquid introducing' sections of claim 2 lack antecedent basis because it is unclear sections of which unit are actually meant.

In claim 9, the 'mixture solution' lacks antecedent basis.

With respect to claim 12, the structural inter-relationships between the connection/disconnection section', on the one hand, and 'liquid introducing' / 'liquid leading out sections', on the other hand, are not set forth.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 6, 9-10 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by Caucal (US 5935332).

Caucal discloses a fluid processing system comprising, as illustrated in Figure 1, tanks 1, 2 ['liquid containing sections' – Ex.]. Fluids are introduced into tank 2 via fluidic circuit C1 ['liquid introducing section' – Ex.] and into tank 1 – via the section of circuit C2 adjacent to the tank, and forced out of the tanks via circuits C2, C3 ['liquid leading out

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sections' – Ex.]. The 'liquid leading out sections' include pumps P1, 4 ['energy application means' – Ex.] and valves V6, V7 containing sealing means. Both tanks also include stirrers 6,7 ['processing means' – Ex.].

With respect to claims 6 and 9-10, Figure 1 shows a plurality of metering elements T1 – T5 connected to a plurality of stock vessels ['plurality of liquid introducing sections' – Ex.] and detector D2 ['liquid analyzing / detecting means' – Ex.].

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Caucal. Caucal does not specifically teach the valves to be check valves. However, check valves are routinely used in the art. It would have been obvious to one of ordinary skill

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in the art at the time the invention was made to have employed check valves in the modified apparatus of Natelson, in order to ensure one-directional fluid flow.

### ***Response to Arguments***

11. Applicant's arguments filed on 02/22/2007 have been fully considered but they are moot in view of new grounds of rejection.

### ***Conclusion***

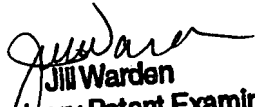
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Levkovich whose telephone number is 571-272-2462. The examiner can normally be reached on Mon-Fri, 8 a.m.-4p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700